

The computer codes in this research were created by using the statistic language R.

PCA codes:

```
> zz <- read.csv('data.csv')  
> pca <- prcomp(zz[1:63, 1:16], scale = TRUE)  
> summary(pca, loadings = TRUE)  
> screeplot(pca, type = "line")
```

K-means codes:

```
> z <- pca$x[1:63, 1:6]  
> y <- kmeans(z, 7, nstart = 3)
```

GPR codes:

```
> library(tgp)  
> X <- pca[1:9, 1:6]  
> Z <- pca[1:9, 7]  
> XX <- pca[1:63, 1:6]  
> symbol <- data.frame(symbol = pca[1:63, 8])  
> exp.bgp <- bgp(X = X, Z = Z, XX = XX, corr = "exp", improv = T, verb = 0)  
> gpr <-  
  cbind(rank = exp.bgp$improv$rank, symbol = symbol, mean = exp.bgp$ZZ.mean, q1 = exp.  
    bgp$ZZ.q1, q2 = exp.bgp$ZZ.q2)  
> activity <- head(gpr$mean[order(gpr$rank)], n = 10)  
> name <- head(gpr$symbol[order(gpr$rank)], n = 10)  
> barplot(activity, name = name)
```